tions on the course of development after interferences with the spatial relations of parts of the embryo or larva, all revealing astonishing powers of restitution of form or of continued normal functioning in spite of grossly changed spatial relations of parts.

At an early stage of development an organism may be halved, and the half may then, under one set of conditions, develop as a half organism, and, under another set, may regenerate its lacking half and become a complete" organism, normal but for its small size. Or two cells, each of which is about to develop into a complete many-celled organism, may fuse together and develop into one.

The astonishing but familiar phenomena of repair of tissue and restitution of normal form and function after injury to the adult creature present similar difficulties ; especially obvious when the restitution is of the whole of a limb (as in a newt after amputation of a limb), a regrowth which may be repeated again and again in the same individual. According to the mechanical theory, the growth and differentiation and arrangement of tissue which result in a limb having all the characteristics common to the species, are due mainly to the many influences raining upon the cells of the growing part from other parts of the growing embryo. But in such cases of restitution the normal limb is restored, though these spatial relations, and consequently the influences exerted by other parts of the organism upon the regrowing part, must be profoundly different from those normally exerted in the growing embryo. For, as a material

system, the
growing embryo from which sprouts the
young limb-bud
is vastly different from the mature organism,
which also
produces after amputation an entirely similar
limb.
Recent remarkable experiments in
transplantation of